

An E3 Consulting®, LLC White Paper



Will National Climate Change Regulations Materialize from Regional Efforts?

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LET'S ASSUME THAT FEDERAL climate change regulation will continue to take a back seat to economic issues for the time being, say until at least 2010. With no action at the federal level, it is possible—even likely—that the efforts at state and regional levels will mature and even start to overlap or connect. Many observers have already predicted that the patchwork of regulations will be sewn together, in effect creating a nationwide program. In this paper, we take a look at the common threads of the major regional initiatives and include some opinions by industry leaders regarding the importance of creating a cohesive regulatory landscape and the potential that it is already in formation. Some regional initiatives are being designed intentionally to have the ability to link with other programs, such as a federal program, when they become established.

For several years, business leaders have been calling for consistency. Jeffrey Immelt, CEO of General Electric, stated that “Long-term certainty would help us all make smart decisions. We believe that the government can provide leadership by clarifying policy, by committing to market mechanisms [and] by promoting diverse energy sources.” “It is critical that we start now,” said Elizabeth Moler, Executive Vice President for Exelon, in 2006. “We need the economic and regulatory certainty to invest in a low-carbon energy future.”¹

This White Paper starts by summarizing the current status of some regional and state government initiatives regarding climate change. It then looks at the development of industry standards for quantifying and reporting GHG emissions and regulatory mechanisms, such as the use of offsets that could become applicable to a nationwide program.

State and regional greenhouse gas (GHG) regulations.

Regional Greenhouse Gas Initiative

Carbon dioxide (CO₂) from fossil fuel combustion accounts for approximately 81% of greenhouse gas emissions, as measured in CO₂ equivalent units. Of this, electricity generation accounted for 42% of the CO₂ from fossil fuel combustion in 2007, the remaining being largely transportation.² Thus, as the source of approximately 34% of GHG emissions in the U.S., with its concentration in stacks rather than scattered in tailpipes, electricity generation has become the area of focus of regulations. The first such regulation is Regional Greenhouse Gas Initiative, or RGGI.

RGGI is a cap-and-trade market-based program in the northeast and is currently the only mandatory program in the U.S. RGGI sets emission limits on power plants of 25 MW and greater, allowing the plants to trade emission allowances. The program caps emissions of CO₂ from power plants at 1990 levels from 2009 through 2014, then gradually reduces the cap to 10% below that level by 2018. The ten participating states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. The program’s requirements are outlined in each individual State’s Rule, but basically, each regulated power plant must hold allowances to cover their emissions of CO₂ annually, and the

number of available allowances will be reduced over time. RGGI started selling allowances with auctions beginning in 2008. The prices during the three auctions held to date have ranged from \$3.07 to \$3.51 for emissions during 2009. If a source predicts that it will emit more than its allowances can cover, it has three options:

- ◆ install CO₂ control devices
- ◆ purchase allowances on the market
- ◆ generate credits through an emissions offset program.

RGGI allows only a certain percentage of emissions to be offset; this percentage increases if allowance costs exceed certain thresholds. The proceeds from the allowance auctions are to be used to support energy efficiency and the development of clean renewable energy.

The concept of the market-based cap-and-trade approach is described in layman's terms in a 2005 article titled "Emission Control": "The more firms that blow their pollution limits, the fewer extra credits there are, and the more they cost, and the greater the incentive to find ways to pollute less—either by conservation, technological innovation, or shutting down dirty plants or factories. Rather than pass laws specifying how pollution targets [will] be met, the government only needs to set those targets, then let private parties figure out how to meet them."³

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Western Climate Initiative

The Western Climate Initiative (WCI) includes Arizona, California, New Mexico, Oregon, Montana, Utah and Washington, as well as the Canadian provinces of British Columbia, Manitoba, Ontario and Quebec. The WCI builds on two previously existing regional agreements: the Southwest Climate Change Initiative of 2006, and the West Coast Governors' Global Warming Initiative of 2003. The WCI was launched in February 2007 and while moving forward with its program as a region, continues to advocate for the development of national and international GHG emission reduction programs.

A major difference between WCI and RGGI is that WCI will apply to emissions not just from electricity generation, but industrial, transportation, and residential and commercial fuel use as well. WCI also includes six greenhouse gasses whereas RGGI only covers CO₂. The completion of the design of a cap-and-trade program was announced in September 2008, outlining the timeline as requiring emissions reporting by 2011 (for 2010 emissions), followed by the first phase of the cap-and-trade program beginning on January 1, 2012.

In their January 2009 “Background Document and Progress Report for Essential Requirements of Mandatory Reporting for the Western Climate Initiative,” Third Draft (the 2009 WCI Report), it is noted that WCI plans to require a reporting threshold of 10,000 metric tons, even though the cap-and-trade participation threshold will be 25,000 metric tons. As a possible sign of regulation to come, the report indicates that the 10,000 metric tons is consistent with the level being considered in potential federal cap-and-trade legislation. It will be interesting to see how this comprehensive mandatory program will impact the development of GHG regulations elsewhere.

Midwestern Greenhouse Gas Reduction Accord

The Midwestern Greenhouse Gas Accord (MGGA), dated November 2007, outlines the intention of the participating jurisdictions to form a cap-and-trade system that has the ability to integrate with other programs, such as a federal program, when they become established. The participating states are Illinois, Iowa, Kansas, Michigan, Minnesota and Wisconsin, in addition to the province of Manitoba. The MGGA will “demonstrate leadership toward, and enable incorporation into and harmonization with, any future federal program, while ensuring the capability of the regional program to stand on its own, if necessary.”

The MGGA plans to finalize its Model Rule, based on a set of recommendations already drafted, by summer or fall of 2009, for submittal to the participants for their review. The recommendations include use of The Climate Registry (TCR) for tracking emissions, discussed later in this paper. Of the regional cap-and-trade programs described so far, the MGGA is the least developed. Some observers have speculated that a federal program will be in place before the MGGA is implemented and therefore make the MGGA unnecessary.⁴

California Assembly Bill 32

The California Global Warming Solutions Act of 2006, Assembly Bill 32, requires the state to enact by January 1, 2011, regulations to achieve the maximum technologically feasible and cost-effective reductions in GHGs, including provisions for using both market mechanisms and alternative compliance mechanisms.

In comments regarding the type of regulation appropriate for the electricity sector in California, the California Independent System Operator (CAISO) submitted that a major goal of California policy should be to facilitate the establishment and implementation of federal or other West-wide policies.⁵ Other stakeholders held the opinion that California should defer a cap-and-trade program until it can be implemented on a wider level to ensure integration of key components, such as transferability of allowances. These stakeholders were overruled, however: in June 2008, the California Air Resources Board (CARB) released a “climate change draft scoping plan” that laid out the framework for meeting the requirements of AB32 and included the creation of a carbon cap and trade program. The cap and trade program, which is proposed for launch in 2012, will be designed to link with WCI, also scheduled to launch that year.

Initiatives in the South

Florida Governor Charlie Crist issued an executive order in July 2007 that directed the Florida Department of Environmental Protection to cut GHG emissions statewide. The Florida Energy and Climate Commission has begun discussion of a carbon cap-and-trade system for Florida⁶, and word is out that another group may be forming in the Southeast (although no information is provided regarding which states may be involved).⁷

So far, no regional initiatives encompass the major coal-producing states nor the largest energy producing state and largest emitter of CO₂ in the United States—Texas.⁸ No observers seem to be anticipating that these states would willingly join a GHG regulation program. Enough industry and public pressure may change that direction, but it is much more likely to take a national mandate for these states to participate in GHG regulations.

U.S. Mayors Climate Protection Agreement

On February 16, 2005, the day that the Kyoto Protocol took effect, Mayor Nickels of Seattle challenged mayors across the country to participate in the U.S. Mayors Climate Protection Agreement. Under the Agreement, participating cities committed to taking the following three actions: strive to meet or beat the Kyoto Protocol targets in their own communities; urge states and the U.S. federal government to enact policies and programs to meet or beat the GHG emission reduction target suggested for the U.S. in the Kyoto Protocol; and urge the U.S. Congress to pass GHG legislation that would establish a national emissions trading system. As of this writing, 935 mayors have signed the Agreement, including many in the coal and energy producing regions. It does not appear that this is a platform for developing new mandatory GHG regulations, but it does indicate an acceptance and willingness on the part of local leaders.

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Leveling the playing field

Pressure is growing to have consistency in GHG regulations. The uncertainty of future regulation is having a very real impact on the electric power industry and other industries in the United States. Not knowing the schedule or scope of possible GHG requirements makes it extremely difficult for companies to make decisions that have long-term business and environmental implications. For example, it is becoming increasingly difficult to finance coal-fired power plants.

Since RGGI does not require utilities to purchase allowances for electricity imported to the region, power plants regulated by RGGI are competing with power plants located outside of the RGGI jurisdictional area and are therefore at a disadvantage. New Jersey is the first state to address this issue, by enacting legislation that

requires the public utilities board to formulate a plan to reduce the risk of increased coal-fired electricity imports.⁹ Similarly, companies located within the WCI will be competing with companies not subject to WCI rules and costs. As stated by Eileen Claussen, President of the Pew Center on Global Climate Change, many in corporate America are ready for the certainty that a well-designed national policy will afford them.¹⁰

How might the patchwork of new and upcoming regulations eventually mesh together?

It makes sense that regional initiatives, as they become established, would choose policies that keep the door open to merging with other programs. For example, an emissions trading market formed as part of WCI could be linked to RGGI,¹¹ where emissions from power plants are interchangeable.

Measuring, Reporting, and Verification of GHG Emissions

The Climate Registry (TCR) was formed in 2007 to be a common GHG reporting system using consistent and verified data infrastructure. All of the WCI states and provinces have joined TCR, as well as many other jurisdictions and businesses not signed up with a cap-and-trade program at this time, including the States of Idaho and Colorado.

Regarding verification of emissions, the WCI intends to “root the program in international standards and best practices, to ensure high quality data, and to promote consistency across similar mandatory greenhouse gas reporting and cap-and-trade programs” and names two International Organization for Standardization (ISO) standards as verification programs.¹²

Consistency among the programs in documenting GHG emissions is a key to fairness during eventual integration, and the creation of regulatory standards for certain aspects of GHG regulation is well underway. In early 2008, the American National Standards Institute (ANSI) launched an accreditation program to standardize the process for documenting and verifying GHG emissions which, as a consequence, standardizes the measuring of emission reductions. ANSI is recognized by The Climate Registry and the California Climate Action Registry (CCAR).

On March 10, 2009, the EPA proposed a mandatory GHG reporting rule. The rule would apply to suppliers of fossil fuel and industrial chemicals, manufacturers of motor vehicles and engines, and sources that emit 25,000 metric tons per year of CO₂e. The purpose of the rule is to collect an estimate of GHG emissions data that can be used in future policy decisions. The proposed monitoring and GHG calculation methodologies for many source categories are the same as, or similar to, the methodologies contained in state reporting programs such as The Climate Registry, the California Climate Action Registry. EPA states that similarity in the methods will help maximize the ability of individual reporters to submit the emissions calculations to multiple programs. The proposed mandatory GHG report rule will be open for public comment for 60 days once it has been published in the Federal Register. Although EPA does not indicate the

date of publication, the two public hearings, which will occur during the public comment period, have been scheduled in April 2009.

Groups have suggested that EPA's proposed mandatory GHG reporting requirement implies that CO₂ is a pollutant "subject to regulation" under the Clean Air Act. Therefore, CO₂ would be subject to New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting requirements. The first hurdle with this approach is assessing whether NSR or PSD would apply at locations of CO₂ emission sources since there is not a National Ambient Air Quality Standard (NAAQS) for CO₂. Most specialists who work with the current NSR/PSD program will agree that it is not adequately structured to address CO₂. The consequences of using the current structure would make nearly every combustion source a major source of CO₂ (threshold of 250 tpy), and other criteria pollutants could potentially trigger NSR/PSD requirements if the significant emission rates are exceeded (lower thresholds ranging from 15 tpy to 100 tpy). CO₂ and the other criteria pollutants that trigger the requirements for a major source or major modification would then be required to go through the rigorous Best Available Control Technology (BACT) or Lowest Achievable Emissions Reduction (LAER) analysis, depending on the NAAQS attainment status of the location, as well as air quality impacts analyses.

For the consumer, increasing regulations on energy production will increase the costs of products that rely on electricity for production, which is essentially everything. These regulatory costs will reverberate throughout the economy until the costs of alternatives to fossil fuel combustion, or CO₂ capture technologies, become comparable to pre-regulation costs.

The emissions thresholds were put in place for a reason – to not unduly burden smaller sources. The result of adding CO₂ to the program with the same thresholds and requirements as the other criteria pollutants would be a paperwork and bureaucratic nightmare. If the main motivation of the NSR/PSD applicability argument is to have regulations to control GHG emissions, it is logical that as alternative strategies such as cap-and-trade move forward, the NSR/PSD argument would recede or the program would be restructured to more adequately address GHG emissions (e.g., a higher major source threshold for CO₂).

Consistency in Offsets

Carbon offsets" are allowances that are purchased to offset a certain quantity of carbon emissions in lieu of mitigation. If the purchase of carbon offsets becomes incorporated into a national program, the regulation of

the offsets needs to be standardized. RGGI allows emission offsets to be used for compliance for 3.3% of a power plant's obligations; RGGI currently allows the Kyoto Protocol's Clean Development Mechanism (CDM) Certified Emission Reduction credits (CERs) to be used under certain circumstances. RGGI has not yet finalized the offset component of the program,

expected to be available in early 2009. The CDM program, which started with its first project in 2004, was intended to spur low-carbon emission projects in developing countries by having those projects sell credits to the Kyoto countries; whether this has happened as planned is another debatable topic. Some of the criticism concerns inadequate standardization of the carbon measurements, demonstrating again the need for appropriate and consistent standards. The CCAR has developed a new offset verification scheme called the Climate Action Reserve (CAR), although these CAR offsets are not on the market yet. Green e-certification is another program to certify companies that sell offsets.¹³ Other verification standards include the Gold Standard, developed in Switzerland, and the Voluntary Carbon Standard (VCS). Although the VCS is based on the ISO GHG methodology, it has been criticized for not having strict enough standards. The Gold Standard was developed by the World Wildlife Fund and claims to be much more stringent; however, the cost for a Clean Development Mechanism project to obtain Gold Standard certification starts at \$10,000.¹⁴ In time, the U.S. will adopt the most applicable standard, or will develop its own system.

Voluntary Carbon Allowance Trading

Some businesses are already participating in a GHG allowance trading and voluntary emissions reduction program, called the Chicago Climate Exchange (CCX). CCX describes itself as a self-regulatory exchange that administers a voluntary, legally binding pilot program for reducing and trading GHG allowances in North America. Offsets are independently verified by a CCX-approved verifier to assess a project's equivalent GHG reduction. Current members include well-known companies such as AEP, Ford Motor Company, Rolls-Royce, DuPont, IBM, and Amtrak. The CCX is an example of a working model that could be scaled up for wider application of carbon allowance trading administered by a non-governmental organization.

Impacts on the Economy

For the consumer, increasing regulations on energy production will increase the costs of products that rely on electricity for production, which is essentially everything. These regulatory costs will reverberate throughout the economy until the costs of alternatives to fossil fuel combustion, or CO₂ capture technologies, become comparable to pre-regulation costs. Portfolios of power generating companies will likely become more diversified in response to both CO₂ regulations along with renewable portfolio standards. Again, costs will be borne by the consumer as electricity prices respond to more expensive methods of generating electricity. The costs may be offset by conservation and efficiency efforts to some degree.

Will Regulations in the U.S. Truly Mitigate Climate Change?

This paper does not go into detail about the affect of GHG regulations on actual reductions in emissions resulting in actual decrease in climate change. If the main result of regulations is that sources simply pay for the right to emit greenhouse gases, and pass the costs along to the consumer, the benefits of mitigating climate change will not be realized. If, however, regulations result in improved efficiency, conservation, and the replacement of fossil fuel based

electricity with renewable resources, then the benefits will be realized. Powerful arguments can be made on both sides; the author is hopeful that the latter case will result.

Also, the United States is not alone in the formidable task of mitigating climate change; one estimate based on 2004 data indicates that the U.S. emits 22.2% of global emissions.¹⁵ As countries such as China and India use more energy, decreases in GHG emissions from the U.S. could be eclipsed by increases in those and other countries without any GHG control. A report by IPCC states that “some large developing countries are projected to increase their emissions at a faster rate than the industrialized world and the rest of developing nations as they are in the stage of rapid industrialization. For these countries, climate change mitigation and sustainable-development policies can complement one another; however, additional financial and technological resources would enhance their capacity to pursue a low-carbon path of development.” Although the statement sounds positive, exactly what the specific financial and technological resources are, and how they would be implemented or distributed, are issues that loom large.

Summary

As stated in an article regarding carbon market trading¹⁶, the federal government stands to gain a great deal from the trials and tribulations of RGGI, WCI and the European Union carbon trading scheme when developing a national program; the regional groups being referred to as “learning laboratories” for the federal government. The next three to five years will be very revealing, as RGGI begins to ratchet down its cap, WCI becomes mandatory, California launches its initiatives, and a federal mandatory reporting program develops. The regional mandatory programs are putting to the test GHG measuring, reporting, trading, offset, and verification systems that will be scrutinized by a wide variety of interested parties. Ideally, a resulting federal program would incorporate the most successful aspects of the regional programs to provide the nation its best opportunity to reduce GHG emissions while minimizing administrative and economic burden. Time and experience will reveal how this will play out.

With profits at stake for some stakeholders, entrenched ways of life at risk for others, and simply due to the democratic process, the development of regulations is contentious and slow. If the result of GHG regulations includes conservation, efficiency and a gradual replacement of fossil-fuel based electricity with renewable resources, then the mayhem of regulatory changes will have been worth it.

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